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Effects of manufacturing inaccuracies on spatial resolution of lobster eye optics

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Abstract

© 2018 Astronomical Institute, Slovak Academy of Sciences. The performance of Schmidt lobster eye systems are affected by manufacturing inaccuracies in the assembly of individual mirrors or in their non ideal flatness. Such inaccuracies may significantly affect the optics performance and in particular the angular resolution. For this reason we have investigated, via ray-tracing simulations, the effects of such manufacturing inaccuracies. We report the preliminary results of this analysis and compare them with X-ray measurements performed on a test Schmidt lobster eye specimen using the 35 m long X-ray beam-line of the XACT facility of INAF-OAPA in Palermo, Italy.

Keywords

Grazing incidence optics, lobster eye, Multi-foil optics, Reflective optics, Technology aspects, X-ray optics

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